

ABSTRACT OF THE INVENTION

A control method for controlling an internal combustion engine selects a knock threshold magnitude and compares it to individual knock event magnitudes. The difference between these two values is calculated and limited to be within a predetermined range of values. This limitation selects either an event based control method, a proportional control method, or a control method with characteristics of both techniques. A gain is selected as a function of the algebraic sign of the limited or scaled value and the gain is multiplied by the calculated difference. The result is added to a cumulative value of previously calculated differences multiplied by associated gains. The cumulative value is used as a threshold that activates a plurality of control steps which can include ignition timing changes, fueling changes, or air intake magnitude changes.